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	Xiaoyan Hor	ng; Gerla, M.; Li Ma; D2. Proceedings , Vo		os in ad hoc networks Oct. 2002	
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## 7 Performance analysis of parallel hash join algorithms on a distribut shared memory machine implementation and evaluation on HP exem<sub>[</sub> SPP 1600

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Kattamuri, E.; Beng-Hong Lim; Pattnaik, P.; Snir, M.; Innovative Architecture for Future Generation High-Performance Processors a Systems, 1997, 22-24 Oct. 1997 Pages: 29

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Fillo, M.; Keckler, S.W.; Dally, W.J.; Carter, N.P.; Chang, A.; Gurevich, Y.; Le W.S.;

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Gopal, P.M.; Kadaba, B.K.;

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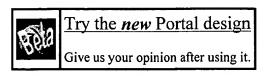
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. Multigrain shared memory

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Donald Yeung , John Kubiatowicz , Anant Agarwal ACM Transactions on Computer Systems (TOCS) May 2000

Volume 18 Issue 2

Parallel workstations, each comprising tens of processors based on shared memory, promise cost-effective scalable multiprocessing. This article explores the coupling of such small- to medium-scale shared-memory multiprocessors through software over a local area network to synthesize larger shared-memory systems. We call these systems Distributed Shared-memory MultiProcessors (DSMPs). This article introduces the design of a shared-memory system that uses multiple granularities of sharing, ca ...

2 Architecture and design of AlphaServer GS320

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Kourosh Gharachorloo , Madhu Sharma , Simon Steely , Stephen Van Doren Proceedings of the ninth international conference on Architectural support for programming languages and operating systems November 2000 Volume 28 , 34 Issue 5 , 5

This paper describes the architecture and implementation of the AlphaServer GS320, a cache-coherent non-uniform memory access multiprocessor developed at Compaq. The AlphaServer GS320 architecture is specifically targeted at medium-scale multiprocessing with 32 to 64 processors. Each node in the design consists of four Alpha 21264 processors, up to 32GB of coherent memory, and an aggressive IO subsystem. The current implementation supports up to 8 such nodes for a total of 32 processors. While s ...

3 Architecture and design of AlphaServer GS320

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cache-coherent non-uniform memory access multiprocessor developed at Compaq. The AlphaServer GS320 architecture is specifically targeted at medium-scale multiprocessing with 32 to 64 processors. Each node in the design consists of four Alpha 21264 processors, up to 32GB of coherent memory, and an aggressive IO subsystem. The current implementation supports up to 8 such nodes for a total of 32 processors. While s ...

# **4** The Stanford FLASH multiprocessor

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Jeffrey Kuskin , David Ofelt , Mark Heinrich , John Heinlein , Richard Simoni , K. Gharachorloo , J. Chapin , D. Nakahira , J. Baxter , M. Horowitz , A. Gupta , M. Rosenblum , J. Hennessy

25 years of the international symposia on Computer architecture (selected papers) August 1998

**5** The Stanford FLASH multiprocessor

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J. Kuskin , D. Ofelt , M. Heinrich , J. Heinlein , R. Simoni , K. Gharachorloo , J. Chapin , D. Nakahira , J. Baxter , M. Horowitz , A. Gupta , M. Rosenblum , J. Hennessy

ACM SIGARCH Computer Architecture News, Proceedings of the 21ST annual international symposium on Computer architecture April 1994 Volume 22 Issue 2

The FLASH multiprocessor efficiently integrates support for cache-coherent shared memory and high-performance message passing, while minimizing both hardware and software overhead. Each node in FLASH contains a microprocessor, a portion of the machine's global memory, a port to the interconnection network, an I/O interface, and a custom node controller called MAGIC. The MAGIC chip handles all communication both within the node and among nodes, using hardwired data paths for efficient data moveme ...

**6** Computing curricula 2001

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Journal on Educational Resources in Computing (JERIC) September 2001

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Distributed file systems: concepts and examples

Eliezer Levy , Abraham Silberschatz

ACM Computing Surveys (CSUR) December 1990

Volume 22 Issue 4

The purpose of a distributed file system (DFS) is to allow users of physically distributed computers to share data and storage resources by using a common file system. A typical configuration for a DFS is a collection of workstations and mainframes connected by a local area network (LAN). A DFS is implemented as part of the operating system of each of the connected computers. This paper establishes a viewpoint that emphasizes the dispersed structure and decentralization of both data and con ...

**8** Fast detection of communication patterns in distributed executions Thomas Kunz , Michiel F. H. Seuren

77%

Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research November 1997

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In

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our experience, such tools display repeated occurrences of non-trivial commun ...

Mark IIIfp hypercube concurrent processor architecture

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J. Tuazon , J. Peterson , M. Pniel

Proceedings of the third conference on Hypercube concurrent computers and applications: Architecture, software, computer systems, and general issues -Volume 1 January 1988

The Mark IIIfp Hypercube is a new generation of hypercube concurrent processor system developed at JPL/Caltech, with peak performance of 5 Mips, 14 Mflops per node, and a peak communication rate of 6 Mbytes per second. Each node utilizes two Motorola MC68020 microprocessors, an MC68882 scalar floating-point coprocessor, and a Weitek 8000 floating-point chip set. One of the MC68020 processors serves as the application and computational processor, the other is dedicated to communication. The ...

**10** Accelerating shared virtual memory via general-purpose network

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| **付** interface support

Angelos Bilas, Dongming Jiang, Jaswinder Pal Singh

ACM Transactions on Computer Systems (TOCS) February 2001

Volume 19 Issue 1

Clusters of symmetric multiprocessors (SMPs) are important platforms for highperformance computing. With the success of hardware cache-coherent distributed shared memory (DSM), a lot of effort has also been made to support the coherent shared-address-space programming model in software on clusters. Much research has been done in fast communication on clusters and in protocols for supporting software shared memory across them. However, the performance of software virtual memory (SVM) is sti ...

11 Piranha: a scalable architecture based on single-chip multiprocessing

77%



Luiz André Barroso , Kourosh Gharachorloo , Robert McNamara , Andreas Nowatzyk , Shaz Qadeer , Barton Sano , Scott Smith , Robert Stets , Ben Verghese

ACM SIGARCH Computer Architecture News, Proceedings of the 27th annual international symposium on Computer architecture May 2000 Volume 28 Issue 2

The microprocessor industry is currently struggling with higher development costs and longer design times that arise from exceedingly complex processors that are pushing the limits of instruction-level parallelism. Meanwhile, such designs are especially ill suited for important commercial applications, such as on-line transaction processing (OLTP), which suffer from large memory stall times and exhibit little instruction-level parallelism. Given that commercial applications constitute by fa ...

**12** Adaptive, fine-grained sharing in a client-server OODBMS: a callback-

77%

বী based approach

Markos Zaharioudakis, Michael J. Carey, Michael J. Franklin ACM Transactions on Database Systems (TODS) December 1997

For reasons of simplicity and communication efficiency, a number of existing objectoriented database management systems are based on page server architectures; data pages are their minimum unit of transfer and client caching. Despite their efficiency, page servers are often criticized as being too retrictive when it comes to concurrency, as existing systems use pages as the minimum locking unit as well. In this paper we show how to support object-level locking in a page-server context. Sev ...

h g e cf **13** SoftFLASH: analyzing the performance of clustered distributed virtual

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shared memory

Andrew Erlichson, Neal Nuckolls, Greg Chesson, John Hennessy

Proceedings of the seventh international conference on Architectural support for programming languages and operating systems September 1996

Volume 31, 30 Issue 9, 5

One potentially attractive way to build large-scale shared-memory machines is to use small-scale to medium-scale shared-memory machines as clusters that are interconnected with an off-the-shelf network. To create a shared-memory programming environment across the clusters, it is possible to use a virtual sharedmemory software layer. Because of the low latency and high bandwidth of the interconnect available within each cluster, there are clear advantages in making the clusters as large as possi ...

14 Verification techniques for cache coherence protocols

77%

Fong Pong , Michel Dubois

ACM Computing Surveys (CSUR) March 1997

Volume 29 Issue 1

In this article we present a comprehensive survey of various approaches for the verification of cache coherence protocols based on state enumeration, (symbolic model checking, and symbolic state models. Since these techniques search the state space of the protocol exhaustively, the amount of memory required to manipulate that state information and the verification time grow very fast with the number of processors and the complexity of the protocol mechanism ...

**15** Scheduler-conscious synchronization

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Leonidas I. Kontothanassis , Robert W. Wisniewski , Michael L. Scott ACM Transactions on Computer Systems (TOCS) February 1997

Volume 15 Issue 1

Efficient synchronization is important for achieving good performance in parallel programs, especially on large-scale multiprocessors. Most synchronization algorithms have been designed to run on a dedicated machine, with one application process per processor, and can suffer serious performance degradation in the presence of multiprogramming. Problems arise when running processes block or, worse, busy-wait for action on the part of a process that the scheduler has chosen not to run. We show ...

**16** SM-prof: a tool to visualise and find cache coherence performance

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d bottlenecks in multiprocessor programs

ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1995 ACM SIGMETRICS joint international conference on Measurement and modeling of computer systems May 1995

Volume 23 Issue 1

Cache misses due to coherence actions are often the major source for performance degradation in cache coherent multiprocessors. It is often difficult for the programmer to take cache coherence into account when writing the program since the resulting access pattern is not apparent until the program is executed.SM-prof is a performance analysis tool that addresses this problem by visualising the shared data access pattern in a diagram with links to the source code lines causing performance degrad ...

**17** Fine-grained sharing in a page server OODBMS

Michael J. Carey, Michael J. Franklin, Markos Zaharioudakis

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# ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data May 1994

Volume 23 Issue 2

For reasons of simplicity and communication efficiency, a number of existing object-oriented database management systems are based on page server architectures; data pages are their minimum unit of transfer and client caching. Despite their efficiency, page servers are often criticized as being too restrictive when it comes to concurrency, as existing systems use pages as the minimum locking unit as well. In this paper we show how to support object-level locking in a page server context. Se ...

18 The Wisconsin Wind Tunnel: virtual prototyping of parallel computers
Steven K. Reinhardt, Mark D. Hill, James R. Larus, Alvin R. Lebeck, James C. Lewis,
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David A. Wood

ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1993 ACM

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